AIR QUALITY PERMIT

Issued To: CHS, Inc.
803 Highway 212 South
PO Box 909
Laurel, MT 54044

Permit: #3901-00
Application Complete: 11/06/06
Preliminary Determination Issued: 12/15/06
Department's Decision Issued:
Permit Final:
AFS #: 031-0020

An air quality permit, with conditions, is hereby granted to CHS, Inc. (CHS) pursuant to Sections 75-2-204, 211, and 215 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

SECTION I: Permitted Facilities

A. Permitted Equipment

MAQP #3901-00 is issued to CHS for the construction and operation of the Logan Bulk Terminal. This bulk petroleum product terminal consists of nine petroleum storage tanks, one two-bay truck loading rack, and associated equipment. A further description of the permitted equipment is contained in Section I.A of the Permit Analysis.

B. Plant Location

The terminal will be located between Interstate 90 and Frontage Road 205 in Logan, Montana. The legal description for the facility is the Northwest ¼ of Section 35, Township 2 North, Range 2 East, in Gallatin County, Montana.

SECTION II: Tank Truck Loading Rack

A. Conditions and Limitations

1. CHS shall operate one tank truck loading rack with two bays, each bay equipped with no more than two arms (one gasoline and one diesel) (ARM 17.8.749).

2. CHS shall be limited to 12,500,000 barrels of product throughput for the truck loadout operation during any rolling 12-month period (ARM 17.8.749).

3. Loading of tank trucks shall be restricted to the use of submerged fill and dedicated normal service (ARM 17.8.749).

4. CHS shall install, operate, and maintain a vapor collection system to collect Volatile Organic Compound (VOC) emissions from the tank truck loading rack during product loading, and vent those emissions to a vapor combustor unit (VCU) (ARM 17.8.340, 40 CFR 60, Subpart XX, and ARM 17.8.752).

5. CHS shall ensure that loading of product tank trucks at the loading racks are made only into tank trucks with vapor collection systems compatible with the terminal's vapor collection system, and that the systems are connected during each loading of product (ARM 17.8.340, 40 CFR 60, Subpart XX, and ARM 17.8.749).

6. The vapor recovery system shall be designed to prevent any VOC vapors collected at one loading rack from passing to another loading rack (ARM 17.8.340, 40 CFR 60, Subpart XX, and ARM 17.8.749).

7. No pressure-vacuum vent in the vapor collection system shall begin to open at a system pressure less than 4,500 Pascal (Pa) (450 millimeters [mm] of water) (ARM 17.8.340 and 40 CFR 60, Subpart XX).

8. The vapor collection system and liquid loading equipment shall be designed and operated to prevent gauge pressure in the gasoline tank truck from exceeding 4,500 Pa (450 mm of water) during product loading. This level shall not be exceeded when measured by the procedures specified 40 CFR 60.503(d) (ARM 17.8.340 and 40 CFR 60, Subpart XX).

9. Loading of product into gasoline tank trucks shall be limited to vapor-tight tank trucks using the procedures listed under 40 CFR 60.502(e) (ARM 17.8.340 and 40 CFR 60, Subpart XX).

    a. CHS shall obtain the vapor tightness documentation described in EPA Method 27, or another method approved by the Montana Department of Environmental Quality (Department), for each gasoline tank truck that is loaded at the loading racks;

    b. CHS shall require the tank truck identification number to be recorded as each gasoline tank truck is loaded at the terminal; and

    c. CHS shall take the necessary steps to ensure that any non-vapor-tight gasoline tank truck will not be loaded at the loading racks until vapor tightness documentation for that tank truck is obtained.

10. CHS shall not cause or authorize to be discharged into the atmosphere from the truck loading rack VCU:

    a. VOC emissions greater than 10.0 mg/L of product loaded (ARM 17.8.752).

    b. Carbon Monoxide (CO) emissions greater than 10.0 mg/L of product loaded (ARM 17.8.752).

    c. Nitrogen Oxides (NO_X) emissions greater than 4.0 mg/L of product loaded (ARM 17.8.752).

11. The VCU shall be operated with a flame present at all times that product is being loaded into tank trucks. CHS shall install and continuously operate a thermocouple and an associated recorder, or any other equivalent device, to detect the presence of a flame (ARM 17.8.752).

12. If CHS decides to use an alternative VCU or flare, other than the proposed John Zink VCU, CHS shall provide written notification to the Department, certify that the alternative control has equivalent emission guarantees and is of similar design to the John Zink VCU, and submit manufacturer specifications and design drawings of the alternative control device (ARM 17.8.749).

13. CHS shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements of 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources (NSPS), Subpart A – General Provisions, and Subpart XX – Standards of Performance for Bulk Gasoline Terminals (ARM 17.8.340 and 40 CFR 60, Subparts A and XX).

B. Testing Requirements

1. The flare shall be initially tested for VOC, and compliance demonstrated with the emission limitation contained in Section II.A.10 within 180 days of initial startup and every 2 years after the initial test (ARM 17.8.105).

2. Compliance with the vapor recovery and liquid loading equipment gauge pressure limits contained in Section II.A.7 & 8 shall be demonstrated every 5 years, or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105).

3. All compliance source tests shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

4. The Department may require further testing (ARM 17.8.105).

C. Inspection and Repair Requirements

1. Each calendar month, the vapor recovery system, the VCU, and each loading rack handling gasoline shall be inspected during the loading of gasoline or ethanol tank trucks for total organic compounds liquid or vapor leaks. In addition, all valves, flanges, pump seals, and open-ended lines shall be inspected for total organic compound leaks each calendar month. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable (ARM 17.8.749).

2. CHS shall (ARM 17.8.749):

   a. Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and

   b. Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in Section II.C.3. below.

3. Delay of repair of equipment for which a leak has been detected will be allowed if repair is technically infeasible without a source shutdown. Such equipment shall be repaired before the end of the first source shutdown after detection of the leak (ARM 17.8.749).

D. Recordkeeping Requirements

1. CHS shall document, by month, the product throughput for the truck loading rack. By the 25th day of each month, ConocoPhillips shall total the amount of throughput during the previous 12 months to verify compliance with the limitation in Section II.A.2. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).

2. The tank truck vapor tightness documentation required in Section II.A.9. of this permit shall be kept on file at the terminal in a permanent form available for inspection. The documentation file for each gasoline and ethanol truck shall be updated at least once per year to reflect current test results. The documentation shall include the information listed in 40 CFR 60.505(b) (ARM 17.8.340 and 40 CFR 60, Subpart XX).

3. CHS shall document, by month, the amount of time that the VCU did not operate while product was loaded into the tank trucks at the racks (ARM 17.8.749).

4. A record of each monthly leak inspection required under Section II.C. of this permit shall be kept on file at the terminal. Inspection records shall include, at a minimum, the following information (ARM 17.8.340 and 40 CFR 60, Subpart XX):

    a. Date of inspection;

    b. Findings (may indicate no leaks discovered or location, nature, and severity of each leak);

    c. Leak determination method;

    d. Corrective action (date each leak repaired and reasons for any repair interval in excess of 15 calendar days); and

    e. Inspector's name and signature.

5. All records compiled in accordance with this permit must be maintained by CHS as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

Section III: Storage Tanks

A. Conditions and Limitations

1. CHS shall use submerged loading (submerged fill or bottom loading) to control VOC emissions from diesel tank filling operations while transferring product from the pipeline or railcars into the diesel storage tanks (ARM 17.8.752).

2. CHS shall use external floating roofs to control VOC emissions from each of the gasoline, transmix, and ethanol storage tanks. CHS shall maintain the tank such that there are no visible holes, tears, or other openings in the seal or any seal fabric or material (ARM 17.8.752, ARM 17.8.324, ARM 17.8.340 and 40 CFR 60, Subpart Kb).

3. CHS shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements of 40 CFR Part 60, NSPS, Subpart A – General Provisions, and Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (ARM 17.8.340 and 40 CFR 60, Subparts A and Kb).

B. Inspection and Testing Requirements for Tanks with External Floating Roofs

1. CHS shall visually inspect the external floating roof, the seals and the fittings each time the storage vessel (tank) is emptied and degassed (ARM 17.8.340 and 40 CFR 60, Subpart Kb).

2. CHS shall determine the gap areas and maximum gap widths between the (a) primary seal and wall of the storage vessel and (b) between the secondary seal and the wall of the storage vessel, using the procedures and reporting requirements from 40 CFR 60, Subpart Kb or use other methods approved by the Department (ARM 17.8.340 and 40 CFR 60, Subpart Kb):

   a. Measurements of gaps between the tank wall and primary seal shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with volatile organic liquid and at least once every 5 years thereafter.

   b. Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with volatile organic liquid and at least once per year thereafter.

   c. If any tank ceases to store volatile organic liquid for a period of one year or more, subsequent reintroduction of volatile organic liquid into the tank shall be determined an initial fill.

C. Recordkeeping and Reporting Requirements

1. CHS shall record any change in products stored in the permitted storage tanks (ARM 17.8.749).

2. CHS shall notify the Department of the date of an inspection or testing at least 30 days prior to the inspection or test required by Section III.B. (ARM 17.8.105 and 40 CFR 60, Subpart Kb).

3. CHS shall submit records of inspection or testing required in Section III.B. to the Department within 30 days of the date of inspection if a gap exceeding the limitations is detected or 60 days if no gap exceedence was measured (ARM 17.8.340 and 40 CFR 60, Subpart Kb).

D. Notification

CHS shall furnish the Department with a report that describes the control equipment for tanks subject to 40 CFR 60, Subpart Kb, and certify that the control equipment meets 40 CFR 60, Subpart Kb. CHS shall submit this report with the notification report required in Section IV.C.2. (ARM 17.8.340 and 40 CFR 60 Subpart Kb).

Section IV: Facility-Wide

A. Limitations and Conditions

1. CHS shall ensure that any open-ended line shall be sealed with a valve (ARM 17.8.749).

2. CHS shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

3. CHS shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

4. CHS shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section IV.A.3 (ARM 17.8.749).

B. Operational Reporting Requirements

1. CHS shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

   CHS shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

   a. The type of petroleum liquid stored in each tank

   b. The average true vapor pressure of the petroleum liquid stored in each tank

   c. The estimated annual throughput of petroleum liquids for each tank

   d. The annual throughput of each type of petroleum liquids (gasoline, diesel, ethanol, etc.) for the truck loading rack

   e. The annual VOC facility-wide emissions for each month, on a 12-month rolling basis

   For reporting purposes, the tanks shall be identified using the tank numbers contained in Section I.A. of the permit analysis.

2. All records compiled in accordance with this permit must be maintained by CHS as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

C. Notification

1. CHS shall provide the Department with written notification of commencement of construction within 30 days after commencement of construction (ARM 17.8.749 and 40 CFR 60.7).

2. CHS shall notify the Department of the initial start-up of the bulk terminal within 15 days after the actual start-up of the facility (ARM 17.8.749 and 40 CFR 60.7).

3. CHS shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

SECTION V: General Conditions

A. Inspection – CHS shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if CHS fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving CHS of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by CHS may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Permit Analysis
CHS, Inc.
Permit #3901-00

I. Introduction/Process Description

CHS Inc. (CHS) owns and operates a bulk petroleum product terminal. The facility is located at the Northwest ¼ of Section 35, Township 2 North, Range 2 East, in Gallatin County, Montana, and is known as the Logan Bulk Terminal.

A. Permitted Equipment

This bulk petroleum product terminal consists of nine petroleum storage tanks, two truck/rail loading racks, and associated equipment, as follows:

1. Product Storage Tanks:

Tank #	**Year** [(1)]	**Tank Contents**	**Capacity** (gallons)	**Dimensions** (dia x height)	**Control**
Tank 1	2007	Gasoline	1.26 million (MM)	70’ x 48’	External Floating Roof
Tank 2	2007	Gasoline	1.26 MM	70’ x 48’	External Floating Roof
Tank 3	2007	Gasoline	0.84 MM	60’ x 48’	External Floating Roof
Tank 4	2007	Diesel	1.26 MM	70’ x 48’	Fixed Roof
Tank 5	2007	Diesel	1.26 MM	70’ x 48’	Fixed Roof
Tank 6	2007	Diesel	0.84 MM	60’ x 48’	Fixed Roof
Tank 7	2007	Transmix	0.084 MM	25’ x 30’	External Floating Roof
Tank 8	2007	Ethanol	0.084 MM	25’ x 30’	External Floating Roof
Tank 9	2007	Biodiesel	0.084 MM	25’ x 30’	Fixed Roof
--	2007	Various Additives	300 gal or less		Fixed Roof

Note: (1) All tanks projected to be installed in 2007

2. Loading Rack:

Truck product loading rack – two bays, each with two loading arms (one diesel and one gasoline) to load product from tanks into tank trucks.

Vapors from product loading are controlled by a John Zink Vapor Combustor Unit (VCU), which is an enclosed flare. The VCU has a small propane-fired auxiliary burner, which only runs when CHS loads product.

3. Associated Equipment:

- Electric pumps, valves, flanges and piping; and
- Electric fire pump.

B. Source Description

The CHS-Logan Bulk Terminal will be a bulk storage and distribution facility for CHS petroleum products marketed throughout western Montana. The terminal will receive gasoline, diesel fuel, ethanol, and biodiesel fuel from the Yellowstone Pipeline or railcar. The products will stored in one of nine storage tanks, then loaded into tanker trucks for shipment. The facility will have an estimated actual throughput of 5,000 barrels per day (bbl/day) each of gasoline and diesel, and an estimated actual throughput of 500 bbl/day each of ethanol, bio-diesel, and transmix.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   CHS shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

CHS must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter (PM). (2) Under this rule, CHS shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (1) Tanks > 65,000 gallons must comply with the prescribed control methodologies for storage of any material greater than 2.5 psia. The tanks that store gasoline are subject to this rule, and comply with the requirement through use of floating roofs. The tanks that store diesel are not subject to this rule. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule. Gasoline received at the Logan Terminal will be received by pipeline or rail and not from tank trucks; therefore, this rule does not apply.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). CHS is considered an NSPS affected facility under 40 CFR 60 and is subject to the requirements of the following subparts. Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:

   40 CFR 60, Subpart Kb, Standard of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. The gasoline, ethanol, and transmix tanks (Tanks #1, 2, 3, 7 and 8) will be subject to 40 CFR 60 Subpart Kb. The diesel tanks (Tanks #4, 5, 6 and 9) are exempt since the vapor pressure of diesel is approximately 0.1 kilopascal (kPa), which is below the 3.5 kPa threshold.

   40 CFR 60, Subpart XX, Standard of Performance for Bulk Gasoline Terminals. This subpart applies to loading racks at bulk gasoline terminals, constructed since December 17, 1980, that deliver liquid product into gasoline tank trucks. CHS-Logan Bulk Terminal is subject to this subpart.

8. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This source shall comply with the standards and provisions of 40 CFR 61, as appropriate and applicable. CHS is not subject to NESHAPs Subpart J (National Emission Standards for Equipment Leaks of Benzene) or Subpart V (Fugitive Emission Sources) since the CHS will not process or handle material containing 10% or greater by weight of benzene or other Hazardous Air Pollutant (HAP).

9. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63. Since the emission of HAPs from CHS facility is less than 10 tons per year for any individual HAP and less than 25 tons per year for all HAPs combined, the CHS facility is not subject to the major source provisions of 40 CFR Part 63. CHS is considered an "area source" of HAPs with respect to 40 CFR 63, Subpart R (the Gasoline Distribution Maximum Achievable Control Technology (MACT)).

   If it is finalized as proposed, CHS will be subject to the MACT standard proposed on November 9, 2006, 40 CFR Subpart BBBBBB National Emission Standards for Hazardous Air Pollutants for Source Categories: Gasoline Distribution Bulk Terminals, Bulk Plants, Pipeline Facilities, and Gasoline Dispensing Facilities, since area sources are proposed to be regulated under this MACT.

D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.402 Requirements. CHS must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or altered stack for CHS is below the allowable 65-meter GEP stack height.

E. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. CHS submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

F. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. CHS has a PTE greater than 25 tons per year of VOC; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. CHS submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. CHS submitted an affidavit of publication of public notice for the November 3, 2006, issue of the *Bozeman Daily Chronicle*, a newspaper of general circulation in the Town of Logan in Gallatin County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving CHS of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

15. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).

G. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

   This facility is not a major stationary source since this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

H. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:

   a. PTE > 100 tons/year of any pollutant;

b. PTE > 10 tons/year of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #3901-00 for CHS, the following conclusions were made:

a. The facility's PTE is less than 100 tons/year for any pollutant.

b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.

c. This source is not located in a serious PM_{10} nonattainment area.

d. This facility is subject to NSPS Subpart Kb and NSPS Subpart XX.

e. This facility is not subject to any current NESHAP standards.

f. This source is not a Title IV affected source, nor a solid waste combustion unit.

g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that CHS will be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, CHS will be required to obtain a Title V Operating Permit.

I. MCA 75-2-103, Definitions provides in part as follows:

1. "Incinerator" means any single or multiple-chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.

2. "Solid waste" means all putrescible and non-putrescible solid, semi-solid, liquid, or gaseous wastes including, but not limited to air pollution control facilities.

J. MCA 75-2-215, Solid or hazardous waste incineration -- additional permit requirements, including but not limited to the following requirements:

1. MCA 75-2-215 requires air quality permits for all new commercial solid waste incinerators. CHS therefore had to obtain an air quality permit.

2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including HAPs, from the incineration of solid waste. The Department determined that the information submitted in this application is sufficient to fulfill this requirement.

3. MCA 75-2-215 requires that the Department reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety and welfare. The Department completed a health risk assessment based on an emissions inventory and ambient air quality modeling submitted by CHS. Based on the results of the emission inventory, modeling, and health risk assessment, the Department determined that CHS's proposed VRU system is in compliance with this requirement.

4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. The Department determined that the proposed VRU system constitutes BACT.

   For Permit #3901-00, CHS submitted modeling a health risk assessment, identifying the maximum concentration of HAPs released from the proposed truck loading VRU. The assessment predicted that the increased cancer risk is well below the acceptable criteria of 1 x E-06 and the sum of all non-cancer hazard quotients are below the criteria of 1.0. This evaluation is discussed in more detail in Section VI of the Permit Analysis.

III. BACT Determination

A BACT determination is required for each new or altered source. CHS shall install on the new or altered source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

A BACT analysis was submitted by CHS in Permit Application #3901-00, addressing some available methods of controlling VOC Emissions from Tank Truck Loading of Petroleum Products and Bulk Storage Tanks. The Department reviewed the evaluated methods, as well as previous BACT determinations. The following control options have been reviewed by the Department in order to make the following BACT determination.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

A. <u>VOC BACT Analysis for Tank Truck Loading of Petroleum Products</u>

A VOC BACT analysis was performed for the VOC emissions from the loading of petroleum products into trucks at the loading racks. Fugitive VOC emissions from equipment leaks (e.g., valves, pumps, flanges, etc.) and "collection efficiency" loss (e.g. vapor collection system inefficiencies) are not included in the BACT analysis.

1. <u>Identification of VOC Control Options:</u>

The VOC BACT analysis was conducted using information from the *Office of Air Quality Planning and Standards Control Cost Manual* (OAQPS Manual) and engineering data from CHS. The following VOC control options were evaluated:

- Incinerators
  - Thermal Oxidizer
  - Catalytic Oxidizer
- Vapor Combustor Unit (VCU, or "enclosed flare")
- Carbon Adsorbers
- Condensers
  - Refrigerated Condensers
  - Non-Refrigerated Condensers
  - Coalescer

Incinerators

The combustion products of waste gases can be incinerated in a thermal incinerator or in a catalytic incinerator. In a catalytic incinerator a catalyst is used to increase the rate of combustion reaction, allowing the combustion to occur at a lower temperature, typically around 600°F. Thermal incineration is performed at much higher temperatures than catalytic incineration, typically between 1200°F and 2000°F. Control efficiencies for thermal and catalytic incineration can be designed as high as +99% for noxious gas streams and typically lower for less noxious gas streams (between 95% and 98%). Catalytic incinerators can plug with high particulate loading and can foul with heavy metals, phosphorus, and sulfur compounds.

A major advantage of incineration is that virtually any gaseous organic stream can be incinerated safely and cleanly, provided proper engineering design is used. Incineration converts organic compounds into carbon dioxide and water, assuming complete combustion. Typically, the waste gas stream is much lower in temperature than is required for incineration; therefore, energy must be supplied to the incinerator to raise the waste gas temperature.

Vapor Combustion Unit

A VCU is an enclosed flare. Flaring is a combustion control process for VOCs in which the waste gas stream is piped to a remote, usually elevated, location (for safety reasons) and burned in an open flame in the open air using a specially designed burner tip, auxiliary fuel, and steam or air to promote mixing for nearly complete (>98%) VOC destruction. Complete combustion in a VCU is governed by flame temperature, residence time in the combustion zone, turbulent mixing of the components to complete the oxidation reaction, and available oxygen for free radical formation.

Carbon Adsorbers

Carbon adsorbers use activated carbon to remove VOC from low to medium concentration gas streams by adsorption. Adsorption itself is a phenomenon where gas molecules passing through a bed of solid particles (e.g., activated carbon) are selectively held there by attractive forces which are weaker and less specific than those of chemical bonds. During adsorption, a gas molecule migrates from the gas stream to the surface of the solid where it is held by physical attraction releasing energy, which typically equals or exceeds the heat of condensation. Most adsorbers can be cleaned by heating to a sufficiently high temperature, usually using steam or hot combustion gases or by lowering the pressure to a low value (vacuum). This cleaning process creates a waste product, which will have to be properly disposed.

Five types of adsorbers are used in collecting gases: fixed regenerable beds, disposable/rechargeable canisters, traveling bed adsorbers, fluid bed adsorbers, and chromatographic baghouses. Fixed bed and canister adsorbers are the most common. VOC and acid gases can be controlled with control efficiencies greater than 90%. Common problems with carbon adsorbers can be plugging and fouling of the activated carbon exposed to wet or heavily concentrated particulate gas streams. CHS operated carbon adsorbers previously at other terminals and experienced significant issues with maintenance and repair that resulted in unacceptable downtime for the control units.

Condensers

Condensers are typically characterized as refrigerated or non-refrigerated. Non-refrigerated condensers are widely used as raw material and/or product recovery devices in chemical process industries. Refrigerated condensers, also sometimes known as Vapor Recovery Units (VRUs) are used as air pollution control devices for treating emission streams with high VOC concentrations (e.g., gasoline bulk terminals, storage, etc.).

Condensation is a separation technique in which one or more volatile compounds of a vapor mixture are separated from the remaining vapors through saturation followed by a phase change. Removal efficiencies above 90% can be achieved with coolants such as chilled water, brine solutions, ammonia, special filter media, etc., depending upon the emission stream characteristics.

Coalescers, which use a filter medium to collect and condense vapor mist containing VOC emissions, are another type of condenser. Coalescers have been used in the petroleum industry for collecting and removing VOC emissions from asphalt loading and storage facilities for many years. By definition, coalescing means "to join together." It is a continuous process by which small aerosols come in contact with the fibers in the filter media, combining with other collected aerosols and growing to emerge as a droplet on the downstream surface of the media, which is capable of being gravitationally drained away.

2. *Eliminate Technically Infeasible VOC Control Options:*

Non-refrigerated condensers are widely used as raw material and/or product recovery devices in chemical process industries, and are not considered air pollution control technology. All of the other options are technically feasible and cannot be eliminated.

3. *Rank Feasible VOC Control Options:*

Control Option	Control Efficiency	Source of Information
Thermal Oxidation	98%	OAQPS stated 70 – 99.9%, recommended use of 98%.
VCU	98%	OAQPS and Vendor Information.
Carbon Adsorber	95%	EPA guidance.
Condenser (Coalescer)	95%	OAQPS Manual stated > 90%, AP-42 stated 90% - 98%, CHS assumed 95% in any calculations based on Vendor Information

4. *Evaluate Most Effective VOC Control Options:*

Since CHS is proposing to install a VCU which is one of the two most efficient strategies, the economic impacts of VCU and Thermal Oxidation were not evaluated.

5. *Select BACT:*

CHS proposes to use a John Zink Vapor VCU, which has a 98% VOC control efficiency. John Zinc guarantees the following emission rates:

- VOC - 10 mg/L product loaded. This control exceeds the NSPS Subpart XX emission limit of 35 mg/L product loaded, and is the basis for the allowable emission rate of 21.9 tons VOC per year controlled emissions. This emission rate is equivalent to other recently permitted sources.

- CO – 10 mg/L product loaded.

- NO_x – 4 mg/L product loaded.

This control is equivalent to the level of control required for other similar sources in Montana. In addition, similar sources were required to install a continuously operating thermocouple and associated recorder or equivalent device, to provide assurance of on-going operation. Therefore, the Department determined that installation of a VCU to control VOC emissions constitutes BACT in this case.

B. VOC BACT Analysis for Bulk Storage Tanks of Petroleum Products with High Vapor Pressure Material

Uncontrolled VOC emissions from the bulk storage tanks for gasoline, ethanol, and transmix was calculated at 693.53 tons per year, based on emission calculations for vertical fixed roof tanks without control devices (in EPA's Tanks 4.09d program). A VOC BACT analysis was performed for the VOC emissions from these storage tanks. A BACT analysis was not performed for diesel tanks due to the extremely low vapor pressure and corresponding low emissions.

1. *Identification of VOC Control Options:*

The VOC BACT analysis was conducted using information from the *Office of Air Quality Planning and Standards Control Cost Manual* (OAQPS Manual) and engineering data from CHS. The following VOC control options were evaluated for the bulk storage tanks of high vapor pressure material:

- Incinerators
  - Thermal Oxidizer
  - Catalytic Oxidizer
- Vapor Combustor Unit (VCU, or "enclosed flare")
- Floating Roof
- Carbon Adsorbers
- Condensers
  - Refrigerated Condensers
  - Non-Refrigerated Condensers
  - Coalescer
- Connect Tanks to Gas Pipeline

All of the control options are identical to the BACT analysis for Tank Truck product loading, except:

Floating Roof

Emissions from tanks typically result from working and breathing loss. Working loss occurs when vapor is displaced during tank loading operations and when air drawn into the tank during unloading operations becomes saturated with vapor and expands. Breathing loss is the expulsion of vapor from the tank due to vapor expansion resulting from diurnal temperature and barometric pressure changes. Installation of floating roofs greatly reduces evaporation from the liquid surface, and also minimizes breathing losses due to minimizing the volume of empty space above the liquid surface.

Connect Tanks to Gas Pipeline

If the tank vents were piped to a natural gas pipeline, vapors would be collected for use.

2. *Eliminate Technically Infeasible VOC Control Options:*

The industry considers incineration to be technically infeasible for control of tank VOC emissions, due to the periodic nature of the emissions generated from the tanks working and breathing loss, and the potential for negative pressure to create an explosive condition. Therefore, incineration can be eliminated from further review.

There is no available gas pipeline to accept vapors from the storage tanks. Therefore, this option can be eliminated from further review.

3. *Rank Feasible VOC Control Options:*

Control Option	Control Efficiency	Source of Information
VCU	98%	OAQPS and Vendor Information.
Floating Roof	97%	AP-42 states that the efficiency of internal floating roofs can vary from 60%-99%. CHS calculated 97.4% efficiency for floating roofs based on Tanks 4.09d (comparison with and without floating roofs).
Carbon Adsorber	95%	EPA guidance.
Condensor (Coalescer, or "Vapor Recovery Unit")	95%	OAQPS Manual stated > 90%, AP-42 stated 90% - 98%, CHS assumed 95% in any calculations based on Vendor Information

4. *Evaluate Most Effective VOC Control Options:*

The OAQPS Manual provides the EPA's recommended methodology for estimating the costs for add-on control technology. To calculate the cost effectiveness of a control technology in dollars per ton ($/ton), the following factors are used:

Cost effectiveness ($/ton) = [(total capital investment x Capital Recovery Factor [CRF]) + Direct Annual Cost]/(tons VOC controlled)

Capital recovery cost (= total capital investment x CRF)

Total capital investment = direct and indirect costs for purchasing and installing control equipment.

Capital recovery factor (CRF) = multiplier to determine the uniform end-of-year payment necessary to repay an investment in *n* years with an interest rate of *i.*
Control system life, *n* = typically 10 to 20 years,
Interest rate, *i* = 7% is recommended interest rate
For this BACT analysis, CRF = 10 years @ 7% = 0.0142.

Direct Annual cost (utilities, labor, taxes)
Indirect Annual cost (overhead, insurance, taxes)

VCU:
[($140,014 x 0.142)+ $53,421]/(693.53-13.9 tons) = $108/ton controlled

Floating Roof:
[($68,000 x 0.142)+ $2,000]/(693.53-18.0 tons) = $17/ton controlled

Carbon Adsorption:
[($166,144 x 0.142)+ $48,678]/(693.53-34.7 tons) = $110/ton controlled

Condenser (Coalescer or Vapor Recovery Unit)):
[($163,801 x 0.142)+ $43,037]//(693.53-34.7 tons) = $101/ton controlled

Since all of the above options can be considered economically feasible, CHS reviewed the incremental cost of each control device, considering the floating roof as a baseline since this technology is the minimum required federally.

Control	Annualized Cost	Annual VOC Emissions Removed (TPY)	$/Ton Removed	VOC Emitted TPY	Tons Removed over Floating Roof	Incremental Cost $/Ton Removed
VCU	$73,303	680	$108	13.9	4.2	$14,821
Floating Roof	**$11,656**	**676**	**$17**	**18.0**	**BASELINE**	**--**
Carbon Adsorber	$72,270	659	$110	34.7	--	--
Condensor	$66,297	659	$101	34.7	--	--

While the cost effectiveness of each control option for the tanks is economically feasible at approximately $100/ton or less, the incremental cost of $14,821/ton to use a VCU (estimated at 98% control efficiency), rather than a floating roof (estimated at 97.4% control efficiency) is unreasonably high and beyond what is normally required for BACT.

5. *Select BACT:*

CHS proposes to use floating roofs on any tank that will contain gasoline, ethanol, or transmix. Floating roofs are economically, technically, and environmentally feasible, and are consistent with other recently permitted similar sources. Therefore, the Department determined that installation of external floating roofs to control VOC emissions from storage tanks containing high vapor pressure petroleum liquids constitutes BACT in this case.

B. Other BACT Analyses

Bulk Storage Tanks of Petroleum Products with Low Vapor Pressure Material

Uncontrolled VOC emissions from the bulk storage tanks for diesel was calculated at approximately 1 ton per year, based on emission calculations for uncontrolled vertical fixed roof tanks with submerged fill. Any additional controls would be cost-prohibitive, and the Department is unaware of any previous BACT determinations that required additional control for diesel tanks. Therefore, the Department determined that further BACT analysis is not required. BACT for diesel tanks is use of submerged fill and no additional control.

Fugitive VOC Emissions from Equipment Leaks

Since fugitive VOC equipment leaks are so low (approximately 0.5 ton per year), any additional controls would be cost-prohibitive. In addition, the Department is unaware of any BACT determinations that required additional control for fugitive equipment leaks. Therefore, further BACT analysis is not required for this source of emissions.

Fugitive PM Emissions from Vehicle Traffic

The Department is unaware of any BACT determinations that required additional control beyond due diligence for preventing fugitive dust emissions from vehicle traffic. CHS' proposal to control fugitive PM emissions from vehicle traffic by paving roadways and parking lots and conducting regular cleaning of these areas to remove loose dirt appears to be reasonable precautions for mitigating fugitive dust emissions. Therefore, further BACT analysis is not required for this source of emissions.

IV. Emission Inventory

Allowable Annual Emissions (tons/yr)						
Source	**VOC**	**NO_x**	**CO**	**SO_2**	**PM/PM_{10}**	**HAPs**
Storage Tanks (9 tanks)	19.0	0	0	0	0	0.42
Truck Loading Rack VCU - Vapor Destruction Efficiency Loss	21.9	8.8	21.9	0	0	0.49
Truck Loading Rack –Vapor Collection Efficiency Loss	4.8	0	0	0	0	0.11
Fugitive Emissions (Equipment Leaks)	0.5	0	0	0	0	0.01
Misc. Emissions	0.2	0	0	0	0	0
Fugitive Emissions (Vehicle Travel)	0	0	0	0	33.5/6.6	0
TOTAL =	**46.4**	**8.8**	**22.0**	**0**	**33.5/6.6**	**1.03**

Detail:

Storage Tanks (standing and working losses from the nine facility storage tanks):

Tank Emissions Based on:

Tanks #1-#3 – external floating roof, based on maximum throughput of gasoline – total 15.36 tpy VOC
Tanks #4-#6 – fixed roof, based on maximum throughput of diesel – total 0.94 tpy VOC
Tanks #7-#8 – external floating roof, based on maximum throughput of transmix, ethanol - total 2.68 tpy
Tank #9 - fixed roof, based on maximum throughput of biodiesel – total 0.04 tpy VOC

Emissions calculated using EPA Tanks v.4.0d Storage Tank Emissions Calculation Software.

Truck Loading Rack - VCU Emissions:

Annual truck loading rack emissions from the VCU are based on a restricted annual gasoline throughput (Mgal/yr) and emission factors provided by the flare manufacturer (John Zink).

Emissions (E) = Emission Factor (EF) [lb/thousand gal (lb/Mgal)] * Annual throughput of material (Q, Mgal/yr)
where Q = the maximum annual gasoline throughput

VOC

EF = 10.0 mg/L of gasoline loaded (per manufacturer's specifications) = 0.0834 lb/Mgal
E = 0.0834 lb/Mgal * 525,600 Mgal/yr * 0.0005 ton/lb = 21.9 ton/yr

NO_X

EF = 4.0 mg/L of gasoline loaded (per manufacturer's specifications) = 0.0334 lb/Mgal
E = 0.0334 lb/Mgal * 525,600 Mgal/yr * 0.0005 ton/lb = 8.8 ton/yr

CO

EF = 10.0 mg/L of gasoline loaded (per manufacturer's specifications) = 0.0834 lb/Mgal
E = 0.0834 lb/Mgal * 525,600 Mgal/yr * 0.0005 ton/lb = 21.9 ton/yr

Truck Loading Rack - Fugitive Emissions (vapor collection loss):

Annual fugitive loading rack emissions are based on the amount of material loaded, the collection efficiency of the vapor collection system, and engineering calculation based on the vapor pressure and molecular weight of the product (AP-42 Section 5.2). Note that the assumption of 99.2% collection efficiency was an estimate based on knowledge of the process and comparison with assumptions made for another bulk terminal in the state.

Emissions (E, lb/yr) =

Annual throughput of material (Q, Mgal/yr) * 12.46 * (S * P_{vap} * MW_{vap} / T) * (1-VCUeff*VDUeff)/10000

		Distillate (Diesel & Bio-Diesel)	Gasoline (RVP 13) and Ethanol & Transmix
Q	Thousand gal/yr (Mgal/yr)	251,368	274,230
S	Saturation Factor	0.6	0.6
P_{vap}	True Vapor Pressure (psia)	0.0033 @ 42 deg F	4.7 @ 40 Deg F
MW_{vap}	Vapor molecular weight (lb/lbmol)	130	62
T	Temperature (deg R)	502	502
VCU eff	Vapor Capture Efficiency	99.2%	99.2%
VDUeff	Vapor Destruction Efficiency	--Calc per Zink's--	--Calc per Zink's --

Collection Efficiency Loss emissions from distillate:

E= 251,368 Mgal/yr * 12.46 * (0.6*0.0033 *130)/502 * (1 – (99.2)/100)

E = 12.8 lb/yr

Collection Efficiency Loss emissions from gasoline (based on worst-case RVP 13):

E= 274,230 Mgal/yr * 12.46 * (0.6*4.7 *62)/502 * (1 – (99.2)/100)

E = 9,520.5 lb/yr * 1 ton/2000 lb = 4.76 tons per year

Fugitive Emissions from Equipment Leaks (Leaks from process equipment: valves, connections, etc.)

Emissions (lb/yr) = Number of components * EF (lb/hr-component) * 8760 hr/yr

Basis for Emission Factors: EPA Protocol for Equipment Leak Emission Estimates, November 1995 (EPA-453/R-95-017). Table 2-3: Marketing Terminal Average Emission Factors (Gas Service), Total organic compounds (including non-VOCs such as methane & ethane). CHS chose to calculate all the components based on Gas Service, because the emissions were calculated slightly higher than calculating the components based on Liquid Service.

Component Type	Number of Components	EF (lb/hr-component)	VOC Emissions (lb/yr)
Valves	120	2.87E-05	30.2
Pressure Release Valves	20	2.87E-05	5.0
Connections	300	9.26E-05	243.4
Open-ended Lines	10	2.65E-04	23.2
Load Arms	4	2.65E-04	9.3
Fittings	200	9.26E-05	162.2
Flanges	500	9.26E-05	405.6
Pumps and Meters	50	1.43E-04	62.6
TOTAL			**941.5 lb/yr 0.47 tpy**

Miscellaneous Emissions

Emissions (lb/yr) = Number of components *EF (lb/yr-component)

Miscellaneous emissions include emissions from additive tanks, and meter provings. The facility determined that other potential types of miscellaneous emission sources, such as tank cleanings and rack drains and wastewater sumps, are extremely rare and/or unquantifiable. Emissions estimations are based on process knowledge and engineering calculations.

Component Type	Number of Components	EF (lb/yr-component)	VOC Emissions (lb/yr)
Provers*		62.2	62.2
Additive Tanks	**4**	37.4	371.4
TOTAL			**433.6 lb/yr 0.22 tpy**

**Provers: 20 provers/yearx 200 gal/prover = 4,000 gal/yr. Basis for Tanks 4.09d*

HAP Speciation Factors – HAP/VOC (based on CHS' Glendive analysis)

Stream	Benzene	Toluene	Ethyl-benzene	Xylenes	n-Hexane	Total
Gasoline (vapor)	0.52%	0.39%	0.03%	0.16%	1.12%	2.22%

Note: the Emission inventory assumed an unrealistic worst-case emission of HAPs as the gasoline vapor input into the VRU; there were no available factors to provide an estimate of HAPs remaining post-combustion.

Fugitive Emissions from Vehicle Travel

Vehicle Miles Traveled: 3 loads/hr x 24 hr/day x 2 racks x 0.25 miles/truck/load = 36 VMT/day (*Facility Estimate*)
Based on paved road travel for 50 ton trucks
Control Efficiency Included in Emission Factor

PM Emissions:

PM Emissions Factor (Rated Load Capacity @ 50 Tons): 5.1 lbs/VMT (AP-42, Section 13.2.1, 11/2006)
PM = (36 VMT/day) x (5.1 lb/VMT))
PM = 183.6 lbs/day
= 33.5 ton/yr

PM_{10} Emissions:

PM_{10} Emissions Factor (Rated Load Capacity @ 50 Tons): 1.0 lbs/VMT (AP-42, Section 13.2.1, 11/2006)
PM_{10} = (36 VMT/day) x (1.0 lb/VMT))
PM_{10} = 36.0 lbs/day
= 6.6 ton/yr

$PM_{2.5}$ Emissions:

$PM_{2.5}$ Emissions Factor (Rated Load Capacity @ 50 Tons): 0.15 lbs/VMT (AP-42, Section 13.2.1, 11/2006)
$PM_{2.5}$ = (36 VMT/day) x (0.15 lb/VMT)
$PM_{2.5}$ = 5.4 lbs/day
= 1.0 ton/yr

V. Existing Air Quality

CHS facility is located the Northwest ¼ of Section 35, Township 2 North, Range 2 East, in Gallatin County, Montana. This area is considered attainment for all criteria pollutants.

VI. Ambient Air Impact Analysis

CHS submitted air quality modeling and a health risk assessment to demonstrate compliance with ARM 17.8.770. The modeling was conducted using Screen3, based on the design parameters for the proposed John Zinc VRU and the maximum permitted VOC emission rate of 12 lb/hr (calculated from 10 mg/L at the maximum production rate of 2,400 gallons per minute for gasoline loading).

The one-hour maximum VOC concentration was modeled to be 39.51 ug/m^3 at 215 meters from the source. Using a factor of 0.1 to annualize this concentration, the one-hour maximum VOC concentration on an annual average basis was calculated to be 3.95 ug/m^3.

The vapor weight fraction of each HAP in gasoline (based on information from CHS' Glendive facility) was multiplied by the calculated annual average ambient concentration of 3.95 ug/m^3 to obtain the annual average maximum ambient concentration of each HAP. This method is overly conservative, since the vast majority of the HAPs in gasoline are expected to be combusted in the VRU; however, there is no available data to quantify the HAP speciation post-combustion.
The annual average concentration of each HAP was used to calculate the cancer risk and non-cancer chronic quotient, as shown below:

HAPs	Vapor Weight Fraction	Annual Average Conc (ug/m3)	Cancer Risk Factor [(1)] $(ug/m3)^{-1}$	Cancer Risk	Non-Cancer Chronic Risk Factor [(2)] (ug/m3)	Non-Cancer Chronic Quotient	Non-Cancer Acute Risk Factor [(2)] (ug/m3)	Non-Cancer Acute Quotient
Benzene	0.00518	0.0205	7.8E-06	1.6 E-07	71	2.88E-04	--	--
Ethylbenzene	0.00026	0.0010	--	--	1000	1.03E-06	--	--
n-Hexane	0.01122	0.0443	--	--	200	2.22E-04	--	--
Toluene	0.00394	0.0156	--	--	400	3.89E-05	--	--
m-Xylene	0.00164	0.0065	--	--	300	2.16E-05	44	1.48E-04
TOTAL	**0.02224**			**1.6E-07**		**5.71E-04**		**1.48E-04**

Note: (1) Cancer Risk Factor from EPA's "Chronic Dose Response – Table 1," dated 2/28/05
(2) Non-Cancer Risk Factors based on ARM 17.8.770 Table 2 multiplied by 100 for a safety factor.

The cancer risk was calculated by multiplying the annual average concentration by the cancer risk factor. Benzene was the only HAP with cancer risk. The total increased cancer risk of 1.6E-07 is below the acceptable criteria of 1.0E-06.

The non-cancer risk for both chronic risk and acute risk were calculated by dividing the annual average ambient concentration of the HAPs in each category by the non-cancer factors to obtain a non-cancer chronic quotient. The sum total of non-cancer chronic quotients is 5.71E-04. The non-cancer acute quotient for xylene, the only HAP with an acute risk, was 1.48E-04. Both chronic and acute quotients were well below the criteria of 1.0.

Based on the modeling and health risk assessment provided by CHS, emissions from the flare will constitute no more than negligible risk to the public health, safety, welfare and the environment. Furthermore, the Department believes the amount of controlled emissions from this facility will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

DRAFT ENVIRONMENTAL ASSESSMENT (EA)

***Issued To*:** CHS, Inc.
803 Highway 212 South
PO Box 909
Laurel, MT 54044

Air Quality Permit Number: 3901-00

Preliminary Determination Issued: December 15, 2006
Department Decision Issued:
Permit Final:

1. *Legal Description of Site*: The terminal will be located between Interstate 90 and Frontage Road 205 in Logan, Montana. The legal description for the facility is the Northwest ¼ of Section 35, Township 2 North, Range 2 East, in Gallatin County, Montana.

2. *Description of Project*: CHS applied for a Montana Air Quality Permit (MAQP) for the construction and operation of the Logan Bulk Terminal. This bulk petroleum product terminal will consist of nine petroleum storage tanks, two truck loading racks, and associated equipment.

3. *Objectives of Project*: CHS wants to build a new bulk terminal to facilitate distribution of petroleum fuels to the area.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because CHS demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be included in Permit #3901-00.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites			X			Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic life and Habitats

Minor impacts on terrestrial or aquatic life and habitats would be expected from the proposed project, because the new facility will be constructed on 87 acres of grassland. The area was previously disturbed by Milwaukee railroad. Some leveling and compaction of soil for construction of buildings and tanks will be required.

B. Water Quality, Quantity and Distribution

Although minor impacts would be routinely expected on water quality, quantity, and distribution from the proposed project, there is an elevated concern due to potential risk of release.

The project is relatively small. The facility will have an on-site well to provide sanitary water for the facility, which would likely have a septic tank for disposal. The facility is not proposing discharges to surface water.

There is a stream that flows through the site toward the Gallatin River. Since the Gallatin River is approximately 0.2 mile (330 yards) northeast of the site, there is a risk that an accidental release could reach this waterbody. However, the facility will be required to comply with the federal Spill Prevention, Countermeasure and Control (SPCC) Planning requirements to prevent such a release.

While the facility would emit air pollutants, the Department determined that any impacts from the increase in emissions would not be discernible due to the relatively small amount of pollutants emitted from the project (see Section 7.F of this EA). Overall, any routine impacts to water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability and Moisture

Construction of this facility would have a minor effect on the geology, soil quality, stability, and moisture. The proposed facility will be constructed on 87 acres of land previously disturbed by the Milwaukee railroad. Some leveling and compaction of soils will be required for construction of buildings and tanks. Any impacts to the geology and soil quality, stability, and moisture from facility construction would be minor due to the relatively small size of the project. In addition, while deposition of pollutants would occur, the Department determined that the chance of pollutant deposition impacting the geology and soil in the areas surrounding the site would be minor due to the relatively small amount of pollutants emitted (see Section 7.F of this EA).

D. Vegetation Cover, Quantity, and Quality

Minor impacts would occur on vegetation cover, quantity, and quality. The area currently includes native range grass. Vegetative impacts from facility construction would be minor due to the relatively small size of the project and the fact that construction takes place at an area previously disturbed. In addition, while deposition of pollutants would occur, the Department determined that the chance of deposition of pollutants impacting the vegetation in the areas surrounding the site would be minor due to the relatively small amount of pollutants emitted (see Section 7.F of this EA). Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

Minor impacts would result on the aesthetics of the area. Visually, there will be six 48-foot tall and three 30-foot tall tanks that will be apparent from the highway and the Gallatin River. In addition, there will be a significant amount of truck traffic which will cause noise and diesel fume odors. Review of satellite photos shows several nearby buildings that are presumably nearby houses; the applicant stated that the closest residence is approximately 25 yards from the facility. Overall, any aesthetic impacts would be minor due to the relatively small size of the facility and the permit conditions that would minimize emissions from the facility.

F. Air Quality

The air quality of the area would realize minor impacts from the proposed project because the facility would emit relatively small amounts of VOC, NO_x, and CO, and very small amounts of HAPs and PM_{10}. In addition, air emissions from the facility would be minimized by conditions that would be placed in Permit #3901-00. Conditions would include, but would not be limited to, the requirement to operate BACT and to perform monthly leak checks. Permit #3901-00 would also include conditions requiring CHS to use reasonable precautions to control fugitive dust emissions.

While deposition of pollutants would occur as a result of operating the facility, the Department determined that any air quality impacts from deposition of pollutants would be minor due to dispersion characteristics of pollutants, the atmosphere, (wind speed, wind direction, ambient temperature, etc.) and conditions that would be placed in Permit #3901-00. The Department determined that controlled emissions from the source will not cause or contribute to a violation of any ambient air quality standard. Therefore, any impacts to air quality from the proposed facility would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). In this case, the area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. The NRIS search identified two species of concern: *Mealy Primrose,* a vascular plant that is located throughout the project area and a Great Blue Heron Bird Rookery with 38 nests that is located over 1 ½ miles from the project area.

Due to the minor amounts of construction that would be required, the relatively low levels of pollutants that would be emitted, and conditions that would be placed in Permit #3901-00, the Department determined that the chance of the project impacting any species of special concern would be minor.

H. Demands on Environmental Resource of Water, Air and Energy

The proposed project would have impacts on the demands on the environmental resources of water and air because the facility would be a source of air pollutants. However, any impacts on the environmental resources of air would be minor because the facility's potential to emit would be relatively small by industrial standards. Any potential impact on water resources should be minor because the facility will not have routine discharges to surface water and should address accidental release contingencies in a facility SPCC Plan.

The proposed project would have minor impacts on the demand on the environmental resource of energy because propane will be used to operate the VCU, and electricity will be needed to power the pumps and other electrical needs. Overall, any impacts on the demands on the environmental resources of air, water, and energy would be minor.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there have been a few previously recorded historic or archaeological sites within the proposed area, as well as previous cultural resource inventories. SHPO stated that there was a low likelihood that cultural properties would be impacted and that a recommendation for a cultural resource inventory was unwarranted. However, SHPO requested to be contacted to have the site investigated if cultural materials are inadvertently discovered. Therefore, the Department determined that the chance of the project impacting any cultural or historic sites would be minor.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts on the physical and biological aspects of the human environment in the immediate area would be minor due to the relatively small size of the project. As described in Section 7B and 7E, the potential for release of gasoline or diesel and elevated noise levels from tank truck traffic are potential secondary impacts. Potential emissions from the facility would be relatively small by industrial standards. The Department expects this facility to operate in compliance with all applicable rules and regulations outlined in Permit #3901-00.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities			X			Yes
G	Quantity and Distribution of Employment			X			Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services						Yes
J	Industrial and Commercial Activity						Yes
K	Locally Adopted Environmental Plans and Goals						Yes
L	Cumulative and Secondary Impacts						Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores
B. Cultural Uniqueness and Diversity

The proposed project would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the proposed project would take place in a relatively rural location immediately adjacent to a county road, adjacent to the Montana Rail Link tracks and near the Interstate. The proposed project would not change the predominant use of the surrounding area and the facility would be relatively small by industrial standards.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor impacts to the local and state tax base and tax revenue. The facility will expect to employ 3 people, and distribute 4 million barrels/year of petroleum product.

D. Agricultural or Industrial Production

The land (approximately 87 acres) that will be occupied by the facility is open range land (mixed native and cultivated range grasses). Overall, any impacts to agricultural or industrial production would be minor.

E. Human Health

The proposed project would result in only minor, if any, impacts to human health because of the relatively small quantity of potential emissions. As explained in Section 7.F of this EA, deposition of pollutants would occur. However, the Department determined that the proposed project, permitted by Permit #3901-00, would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would not have any impacts on access to recreational and wilderness activities because of the relatively small size of the facility and the fact that it is located between the highway and railroad tracks. The proposed project would have a minor impact on the quality of recreational and wilderness activities in the area, since fishing and floating on the Gallatin River are popular activities. The noise from tank truck traffic and visual impact of the tanks would have a minor impact on the quality of these recreational activities.

G. Quantity and Distribution of Employment

The proposed project would not significantly affect the quantity and distribution of employment based on the expected addition of 3 employees. However, temporary construction-related positions could result from this project. Any impacts to the quantity and distribution of employment would be minor due to the relatively small size of the facility.

H. Distribution of Population

The proposed project would not affect distribution of population in the area because the facility would be located in a relatively rural location. The proposed project would not cause an increase in population in the area. In addition, the proposed project would not have impacts that would cause a decrease in the distribution of population in the surrounding area because the facility would be relatively small by industrial standards and the facility would only emit relatively small amounts of emissions.

I. Demands for Government Services

There would be minor impacts on demands of government services because additional time would be required by government agencies to issue Permit #3901-00 and to monitor compliance with applicable rules and standards. In addition, the roads in the area will realize a minor increase in vehicle traffic. However, any impacts on government services to regulate the minor increase in traffic would be minor due to the overall small size of the operation. Overall, any impacts on the demands for government services would be minor.

J. Industrial and Commercial Activity

Only minor impacts would be expected on the local industrial and commercial activity because the proposed project would represent only a minor increase in the industrial and commercial activity in the area.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals affected by issuing Permit #3901-00. The state standards would protect the proposed site and the environment surrounding the site.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from the proposed project would result in minor impacts to the economic and social aspects of the human environment in the immediate area due to the relatively small size of the facility. Due to the relatively small size of the project, the industrial production, employment, and tax revenue (etc.) would not be significantly impacted by the proposed project. The Department would not expect other industries to be impacted by the proposed project and the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3901-00.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a bulk petroleum product terminal. Permit #3901-00 would include conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Christine Weaver
Date: December 13, 2006